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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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APPLICANTS : WILLIAM F. MAIER
SERIAL NO. : 09/254,525
FILED : March 8, 1999
FOR : USE OF MICROPOROUS INORGANIC MEMBRANE
CATALYSTS
ART UNIT : 1754
EXAMINER : S. Hendrickson

November 12, 2003

Hon. Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF ON APPEAL PURSUANT TO 37 CFR § 1.192

SIR:

This is an appeal from the final rejection of claims 4-8.

(1) REAL PARTY IN INTEREST

The real party in interest is Studiengesellschaft Kohle MBH by virtue of an assignment recorded on March 8, 1999 at Reel 010005, Frame 0481.

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(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

11/19/2003 JRD001 00000050-141263 09254525
01-FC-2254- 749.00-00 02 FC-2402 155.00 D9

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(3) STATUS OF CLAIMS

This application was originally filed with claims 1-3. The preliminary amendment dated March 8, 1999, canceled claims 1-3 and added new claims 4-6, leaving claims 4-6 pending. The amendment dated August 8, 2000, added claims 7 and 8, leaving claims 4-8 pending.

(4) STATUS OF AMENDMENTS

After the final rejection, an amendment was filed on May 12, 2003. It is unclear whether this amendment has been considered. However, the amendment does not propose any changes to the claims.

(5) SUMMARY OF INVENTION

As embodied in appealed claim 4, the present invention relates to a process for performing a catalyzed chemical reaction of starting materials using an amorphous microporous membrane. The amorphous microporous membrane comprises an amorphous layer having pores containing catalytically active components. The pores, in turn, have a pore diameter that is not larger than twice the diameter of the molecules of the starting material, and the overall distribution of pore diameters has a half-width of < 0.3 nm. In carrying out the process, the

starting materials are *pressed* through the pores, and, as will be explained in greater detail below, this dispute with the Examiner centers on the “pressing” aspect of the present invention.

Some background of the present invention is given on page 1 and the top of page 2 of the specification. In the third paragraph on page 2, there is the following reference to the present invention:

“Surprisingly, in contrast to previous membrane applications, it has now been found that undesirable consecutive and side reactions in various chemical reactions can be selectively suppressed by the use of microporous membrane catalysts if the pore size of the membrane is but slightly larger than the reactants and *if the reaction is performed by pressing the reaction mixture through the membrane. * * ** The invention herein described is distinct from the mentioned membrane applications and others known from the literature mainly in that the membrane is not employed for permeability-selective enrichment or depletion of products, educts or catalyst poisons, but two or more mutually reacting educts *are pressed together* in the same direction through the catalytically active membrane. Due to the particular nanostructure of the membrane *and the way of performing the reaction*, the molecules are isolated in the pores and thus consecutive reactions are prevented.”

Thus, the specification not only teaches that the inventive process involves “pressing,” but also teaches that the “pressing,” in addition to the nanostructure of the membrane, is important to the results achieved.

Claim 4 is supported by this disclosure and, for example, original claim 1, which teaches

a pore half-width of < 0.3 nm.

Claim 5 is supported by, for example, Example 1, showing a membrane having an average pore diameter of 4.5 nm.

Claim 6 is supported by original claim 1, line 2 therein.

Claim 7 is supported by the specification at page 5, second paragraph, first sentence therein.

Claim 8 is supported by original claim 2, line 5 therein.

(6) ISSUES

The sole issue for consideration is whether claims 4-8 were properly finally rejected under 35 USC § 112, first paragraph, as containing new matter.

(7) GROUPING OF CLAIMS

The claims on appeal all stand or fall together.

(8) ARGUMENT

Claim 4 recites that the inventive process “comprises *pressing* [the] starting materials

through the pores of [the] membrane.” The Examiner takes the position that this limitation constitutes new matter. In particular, the Examiner finds that there is no support for “pressing,” and “there is no disclosure of any process or apparatus features which perform ‘pressing’ as the term is normally understood and argued by applicant.”

However, Appellant submits that the Examiner’s position clearly is in error, and contrary to law. Appellant previously pointed out that in the amendment dated July 12, 2001, in the first paragraph on page 3, Appellant showed that the specification contained *ipsis verbis* support throughout the specification for the term “pressing,” beginning, for example, at page 2, last paragraph, line 6 therein, wherein it is clearly stated that “the reaction is performed by *pressing* the reaction mixture through the membrane.” The Examiner’s attention was also directed to the specification at page 2, last paragraph, lines 16-17; and to original claim 1, next-to-last line. Clearly, the instant specification supports the term “pressing” as it appears in the appealed claims.

In the fourth paragraph on page 2 of the Final Rejection, the Examiner said he had considered Appellant’s argument. However, the Examiner did not respond to these specification references at all. Respectfully, since the specification recites the term “pressing,” as did original claim 1, Appellant does not understand how the use of the term “pressing” can possibly constitute new matter.

As indicated above, the Examiner also takes the position that the specification does not disclose any process or apparatus features that perform the “pressing” as the term is normally understood and argued by Appellant. However, Appellant would call the attention of the Board members to, for instance, Examples 2 (Examples 3 and 4 are conducted under the same conditions), Example 5 and Example 9. In these examples, the reaction vessel was pressurized with hydrogen gas. Such pressurization has the effect of pressing the reactants through the membrane. Consequently, the specification does, in fact, disclose process and apparatus features that perform the “pressing” as the term is normally understood and argued by Appellant.

The Examiner says the specification shows “diffusion,” not “pressing.” However, “pressing” is clearly taught, and the instant specification clearly supports provides examples of process and apparatus features enabling persons skilled in the art to practice such “pressing.” The Examiner’s position is untenable, particularly in view of the fact that the Examiner has found the claims to be free of prior art, and not indefinite. Respectfully, Appellant is entitled to the issuance of the instant claims.

In order to comply with the written description requirement, an application specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the subject matter being claimed. *See, e.g., Vas-Cath, Inc. v. Mahurkar*, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991). An applicant shows possession of the claimed subject matter by describing the claimed invention with all of its

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limitations using such descriptive means as words, structures, figures, diagrams, and formulas which fully set forth the claimed invention. *See, Lockwood v. American Airlines, Inc.*, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). In the instant case, Appellant's specification provides *ipsis verbis* support for the "pressing" limitation in dispute, and, moreover, Appellant's specification provides examples of process and apparatus features that exemplify and enable "pressing." Under these circumstances, Appellant submits that Appellant's specification reasonably conveys Appellant had possession of the claimed process involving "pressing" at the time the instant application was filed, and, therefore, Appellant's use of the term "pressing" in the instant claims cannot constitute new matter.

(9) CONCLUSION

For the foregoing reasons, Appellant respectfully requests that the Honorable Board reverse the final rejection.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Appellant requests that this be considered a petition therefor. Please charge the required petition fee to Deposit Account No. 14-1263.

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ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess to our Deposit Account No.

14-1263.

Respectfully submitted,
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Hon. Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below:

Date: November 12, 2003

By _____
Kurt G. Briscoe

(10) APPENDIX

CLAIMS ON APPEAL

4. A process for performing a catalyzed chemical reaction of starting materials using an amorphous microporous membrane, wherein said amorphous microporous membrane comprises an amorphous layer comprising pores containing catalytically active components, and said process comprises pressing said starting materials through the pores of said membrane, wherein said pores each have a pore diameter which is not larger than twice the diameter of the molecules of said starting materials, and the overall distribution of pore diameters has a half-width of < 0.3 nm.

5. The process according to claim 4, wherein said pore diameter is between 0.5 and 5 nm.

6. The process according to claim 4, wherein the thickness of the amorphous layer of said membrane is < 10 μ m.

7. The process according to claim 5, wherein said pore diameter is between 0.5 and 3 nm.

8. The process according to claim 6, wherein the thickness of the amorphous layer of said membrane is < 2 μ m.